Understanding discordant relationships between teachers and disruptive kindergarten children: An observational study of teachers' pedagogical practices

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Abstract

Children with externalizing behavior problems often develop conflictual relationships with teachers, which in turn, increases the risk of school failure. Therefore, it is important to examine the protective role of sensitive teacher practices for behaviorally at-risk children. We observed teacher sensitivity and quality of behavior management in interactions with individual students in a behaviorally-diverse sample of kindergartners (N = 192). Teacher-report questionnaires were employed to assess externalizing child behavior and teacher-child relationship quality (i.e., closeness and conflict). Linear regression analyses indicated that, for girls, teacher sensitivity weakened the association between externalizing behavior and conflict. In addition, good behavior management of teachers reduced the risk of conflict for boys with externalizing behavior. The results were discussed in light of two theoretical perspectives on social gender roles and behavior development.

Keywords: teacher-child relationships, externalizing behavior, teacher sensitivity, behavior management, kindergarten children

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Researchers increasingly consider teacher-child relationships in kindergarten as an important indicator of school readiness that forecasts children's future school success (Ladd, Herald, & Kochel, 2006; Mashburn & Pianta, 2006). Especially teacher-child conflict contributes to future socioemotional difficulties and academic underachievement (Hamre & Pianta, 2001; Ladd & Burgess, 1999) and, importantly, predicts children's adjustment beyond children's behavioral risk status (Ladd & Burgess, 2001; Stipek & Miles, 2008). Externalizing child behavior is the strongest predictor of teacher-child conflict. Recent longitudinal research indicates a negative cycle of pronounced increases in externalizing behavior and relational conflict over time that begins, importantly, with externalizing child behavior (Doumen et al., 2008).

Young children's externalizing behavior accounts for about more than half of the variance in teacher ratings of conflict (Hamre, Pianta, Downer, & Mashburn, 2008). Nowadays, researchers increasingly attempt to identify teacher characteristics and contextual factors that predict levels of conflict beyond children's problem behaviors. Previous research revealed that teacher variables such as depression, self-efficacy, and provision of emotional support at the classroom level could explain some of the variance in conflict above child behavior (e.g., Hamre et al., 2008). However, more than characteristics of individuals, the actual patterns and qualities of child and adult responses to one another appear key processes in dyadic relationship systems. Dyadic relationships result from a history of daily interactions (Pianta, Hamre, & Stuhlman, 2003). Over time, feedback and information exchange processes between partners form a structure for the interactions between adult and child (Pianta

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et al., 2003). Thus, through observing the verbal and nonverbal behavior of individuals in dyadic interaction with each other, information could be revealed that is crucial to understand dyadic relationships, and specifically conflictual relationships between teachers and behaviorally-challenging children.

The dyadic relationship systems model of Pianta and colleagues (2003) emphasizes the bidirectional relations between child characteristics and teacher behavior. Yet, while research consistently shows that relationship quality is a dyadic construct, most research has examined supportive behaviors from teachers at the classroom level (Buyse, Verschueren, Doumen, Van Damme, & Maes, 2008; La Paro, Rimm Kaufman, & Pianta, 2006). These studies mostly observe teacher behavior in relation to multiple children to obtain a global indication of socioemotional climate and classroom management of teachers. Observational research of dyadic interactions from a relational perspective is relatively sparse.

The handful of studies available indicate that teachers have more interactions during a school day with children with externalizing problems than with typical children (Coplan & Prakash, 2003). However, the quality of these interactions is generally less favorable. Children with under-controlled behavior or externalizing problems are more easily aroused, have poorer self-regulatory abilities, more difficulties following directions and instructions, and consequently are more likely to provoke confrontations with teachers than typical children. It is generally acknowledged that teachers should intervene and re-direct in such a way that they foster students' capacity for self-regulation rather than exerting control over children's behavior to attain compliance. It is often seen, however, that teachers struggle with sensitively responding to children with conduct problems and that they experience heightened levels of conflict, anger, and even helplessness in relationships

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with young disruptive children (Spilt & Koomen, 2009). Teachers tend to be less responsive to prosocial behavior of behaviorally-challenging children, provide less positive feedback, and show less attempts to engage children in learning activities (Brophy Herb, Lee, Nievar, & Stollak, 2007; Fry, 1983; McComas, Johnson, & Symons, 2005).

Yet, there is evidence from observational research that when teachers create a positive emotional classroom climate, the risk of conflictual relationships with teachers for behaviorally at-risk children is significantly reduced (Buyse et al., 2008). Similarly, Hamre and Pianta (2005) found that children with multiple risk factors had less conflictual relationships with teachers who demonstrated high levels of support as indicated by observation indices of sensitivity towards multiple children, a positive classroom climate, and adequate management behaviors. Comparable positive moderation effects have not been revealed on closeness (Buyse et al., 2008), but Rimm-Kaufmann and colleagues (2002) did find that socially-bold children displayed more socially competent behavior when their teachers responded more sensitively to the child's behavior (i.e., high responsiveness, low overcontrol, and low detachment). Together, these studies indicate a buffering effect of sensitive teacher behavior on social outcomes for behaviorally at-risk children

Surprisingly, Buyse and colleagues (2008) did not find that observations of effective classroom management were related to relational quality, nor did these influence the relation between aggression and relational conflict. It is likely, however, that teachers' regulating practices toward a *particular* child with behavioral difficulties contribute more to the quality of the relationship than classroom management because behavior at the dyadic level is a more proximal factor in the

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dyadic systems model (Pianta et al., 2003). Therefore, we aimed to observe the quality of teachers' behavior management in relation to *individual* children.

We hypothesized that the quality of teachers' pedagogical practices buffers kindergarten children with externalizing behavior against poor teacher-child relationships. Moreover, unlike the studies of Hamre and Pianta (2005) and Rimm-Kaufmann and colleagues (2002) but similar to Buyse and colleagues (2008), we distinguished between teacher sensitivity and behavior management of teachers as is line with the majority of parenting and educational research (Connell & Wellborn, 1991). We expected that effective pedagogical practices of kindergarten teachers would moderate (i.e., weaken) the association between externalizing child behavior and relationship quality, and especially relational conflict (cf. Buyse et al., 2008).

Perspectives on gender differences

When studying linkages between disruptive behavior problems and relationship quality, it is important to consider differences between boys and girls. In early education, boys typically have poorer behavioral regulations skills and more externalizing problems than girls and consequently have more conflictual relationships with teachers (Birch & Ladd, 1997; Hamre & Pianta, 2001). Because of this heightened risks of school adjustment problems for boys, it has been contended that boys are more susceptible to environmental influences such as social support from teachers in comparison to girls (Ewing & Taylor, 2009; Hamre & Pianta, 2001). Thus, according to this academic/behavioral risk perspective, teachers' responsiveness may have a stronger influence on the linkage between aggressive behavior and teacher-child relationship quality for boys than girls.

Alternatively, the gender role socialization perspective asserts that girls are more oriented towards social relationships with others (Ewing & Taylor, 2009; Maccoby, 1998). This perspective predicts that girls are more susceptible to messages of acceptance or rejection that are conveyed in teacher behavior than boys. Following this reasoning, girls may profit more from high-quality interactions with the teacher than boys, which implicates that teachers' responsiveness may have a stronger influence on the linkage between aggressive behavior and teacher-child relationship quality for girls in comparison to boys.

So far, research has shown limited support for both perspectives (Baker, 2006; Ewing & Taylor, 2009; Hamre & Pianta, 2001). We therefore stated two competing hypotheses. According to the academic risk perspective, we expected that the quality of teacher practices has a stronger influence on the association between externalizing behavior and conflict for boys. Conversely, based on the gender role socialization perspective, a stronger effect of the quality of teacher practices on the association between externalizing behavior and conflict was expected for girls.

Present research

In this study we observed the quality of pedagogical practices of kindergarten teachers in interactions with individual children to examine the protective role of sensitive teacher practices for behaviorally at-risk children, and for boys and girls separately. More specifically, we aimed to understand whether actual teacher practices moderate the linkage between externalizing child behavior and relational conflict. As discussed before, this research was guided by Pianta's model of dyadic adult-child relationships and the notion of information exchange processes as well as research highlighting the importance of teachers' actual responsiveness towards individual children.

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As teacher-child interactions are embedded in the classroom context, we observed teachers' pedagogical practices in an arranged but ecologically valid small-group task setting that included 4 individual children with different behavior profiles. Children were selected based on teacher ratings of externalizing and internalizing behavior in order to obtain diversity in children's behavioral characteristics that is representative of regular kindergarten classrooms. To minimize differences across classrooms that are due to chance circumstances, structured observations were conducted. Structured observations have proven satisfactory predictive validity in previous research (Zaslow et al., 2006).

Method

Sample and selection. The sample consisted of 48 kindergarten teachers (all female). Teachers completed a behavior checklist for all children in their class. In every class, children were categorized into four groups: 1) 'average children' with relatively low scores on externalizing and internalizing behavior; 2) 'inhibited children' with relatively high scores on internalizing but not on externalizing behavior; 3) 'disruptive children' with relatively high scores on externalizing but not on internalizing behavior; and 4) 'inhibited-disruptive children' scoring relatively high on both externalizing and internalizing behavior. Cut-off scores were 1.33 and 1.21 on a scale ranging from 1 to 4 for Internalizing and Externalizing Behavior, respectively. Those values were based on the median values derived from a large randomly-selected kindergarten sample (N = 1559). From each group, one child was randomly selected for participation (N=192, 105 boys). In this way, a sample of children with a variety of behavior characteristics was selected that is representative of the heterogeneity of behavior characteristics of children in regular kindergarten classrooms. Also, given this selection procedure, Externalizing Behavior could be

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used as a continuous variable. Teachers were not informed about the selection procedure.

Measures and procedures. The study started in early spring. For selection purposes, teachers completed the Behavior Questionnaire for Two- to Six-Year-Olds-Modified ((BQTSYO-M; Goossens, Dekker, Bruinsma, & De Ruyter, 2000; Thijs, Koomen, De Jong, Van der Leij, & Van Leeuwen, 2004). The BQTSYO-M is a Dutch adaptation of the widely-used Preschool Behavior Questionnaire (Behar, 1977) that comprises broadband scales for Externalizing (14 items; e.g., 'Bullies other children', 'A busy child') and Internalizing Behavior (15 items; e.g., 'Shy or timid towards other children', 'Easily upset'). Items are rated on a 4-point scale ranging from 1 (*absolutely not characteristic*) to 4 (*very characteristic*). Previous research has supported the reliability and validity of the scale with Cronbach's alpha's ≥ .81 and .91 for Internalizing and Externalizing Behavior, respectively (e.g., Thijs & Koomen, 2008).

After completion of the selection procedure, data on relationship quality and teacher practices were collected. Teachers filled out a shortened version of the Dutch adapted Student-Teacher Relationship Scale (Koomen, Verschueren, & Pianta, 2007; Koomen, Verschueren, van Schooten, Jak, & Pianta, 2010; Pianta, 2001) including the subscale Closeness (i.e., the degree of warmth, trust, and open communication, 6 items, $\alpha = .78$) and Conflict (i.e., the degree of discordance, stress, and negativity in the relationship, 8 items, $\alpha = .86$).

Teacher behavior was observed on two regular school days in the classroom within three weeks (at least one week apart). Video-recordings were made of a natural 15-minute small-group task activity with the teacher and the four selected children (see Thijs & Koomen, 2008 for description of the task activity). During the activity, the

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four children worked individually on a task and teachers were instructed to provide assistance as they were used to. The same interaction task was administered about two weeks later. Videotapes were coded afterwards by trained coders who were not familiar with the participants to increase reliability. For each child, both episodes were independently rated in a random order for the degree of Teacher Sensitivity (TS) and quality of Behavior Management (BM). Teacher Sensitivity denotes the provision of comfort, reassurance, and support with respect to a child's academic and socioemotional needs. Quality of Behavior Management refers to proactive responses to influence a child's behavior through clear communication of expectations, adequate feedback, and consistent consequences. Global ratings of TS and BM were given on a 7-point scale (1=low quality, 7=high quality) using an adaptation of the Classroom Assessment Scoring System for observations of teacher behavior in dyadic interaction with a particular child (La Paro, Pianta, & Stuhlman, 2002; Verschueren, Van de Water, Buyse, & Doumen, 2006). The average score of the two episodes was used in the analyses. Intraclass correlations (ICCs) were calculated to assess interrater reliability. ICCs between .75 and 1.00 indicate excellent agreement; ICCs between .60 and .74 indicate good agreement; and ICCs between .40 and .59 are considered fair (Cicchetti et al., 2006). The ICCs for TS and BM were .67 and .72, respectively.

Analyses. Linear regression analyses were conducted for the total sample as well as for boys and girls separately. The predictor variables Teacher Sensitivity, Behavior Management, and Externalizing child behavior were standardized to ease interpretation. To measure moderation effects, interaction terms were computed by multiplying the standardized predictors. All predictors were simultaneously added to the regression models with relationship quality dimensions as the dependent variables.

Non-significant interaction terms were removed from the final models. Simple slopes are presented to visually probe significant interaction effects (see Figure 1 and 2).

Because of the nested structure of the data, we examined the level of between-subject variance. Random intercept models without predictors indicated significant between-subject variance for Closeness (21%, $p < .05$). Therefore, a multilevel regression model (i.e., children nested within classrooms) with a random intercept and fixed slope effects was estimated for Closeness in order to reduce the chance of spurious results. For Conflict, no between-subject variance was found and regular regression analyses were performed.

Results

Preliminary analyses. Multilevel regression analyses with gender dummy-coded showed that boys received higher scores on Conflict and lower scores on Closeness in comparison to girls ($p < .05$, two-sided). The gender difference with respect to Behavior Management was marginally significant ($p = .053$, two-sided). Table 1 presents the means, standard deviations and intercorrelations for boys and girls separately.

Moderation effects. The regression coefficients of the final regression models are reported in Table 2. Behavior Management moderated the link between Externalizing Behavior and Conflict, such that Externalizing Behavior was less predictive of Conflict when the quality of Behavior Management was high (F_{change} (1,167)=4.359, $p < .05$). In addition, when separate analyses were conducted for boys and girls, it was found that Teacher Sensitivity and not Behavior Management moderated the association between Externalizing Behavior and Conflict for girls: Externalizing Behavior appeared less predictive of Conflict when levels of Teacher Sensitivity were

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high (F_{change} (1,75)=12.087, $p < .01$). The moderation effect of Teacher Sensitivity on the association between Externalizing Behavior and Conflict for girls is pictured in Figure 2. Under conditions of low Teacher Sensitivity (i.e., 1 standard deviation below the mean), girls with Externalizing Behavior (i.e., 1 standard deviation above the mean) had much more conflictual relationships with teachers than under conditions of high Teacher Sensitivity (i.e., 1 standard deviation above the mean). The size of this difference was large (Cohen's $d = 2.58$).

The moderating effect of Behavior Management was still found for boys though marginally significant (F_{change} (1,87)=2.727, $p = .10$). Figure 1 depicts the moderation effect of Behavior Management on the association between Externalizing Behavior and Conflict for boys. Under conditions of low Behavior Management (i.e., 1 standard deviation below the mean) the boys with Externalizing Behavior (i.e., 1 standard deviation above the mean) had significantly more conflictual relationships with teachers than under conditions of high-quality Behavior Management . The size of this difference was modest (Cohen's $d = 0.23$).

Teacher Sensitivity and Behavior Management did not moderate the association between Externalizing Behavior and Closeness.

Discussion

We aimed to understand whether actual pedagogical practices of teachers in dyadic interactions with individual children could reduce the risk for interpersonal conflict that is typically associated with early externalizing behavior problems. Unlike other studies, we conducted *structured* observations of teachers' sensitivity and quality of behavior management in interactions with *individual* children. In addition,

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considering previous research that has hypothesized important gender differences in susceptibility to social influences, we studied the moderating role of pedagogical practices of teachers for boys and girls separately.

As expected, the association between externalizing behavior and conflict was most pronounced when teachers demonstrated low responsiveness to children's unique needs (Buyse et al., 2008; Hamre & Pianta, 2005; Rimm-Kaufman et al., 2002). For girls, teacher sensitivity appeared to play an important role. Girls with high levels of externalizing behavior had significantly less conflictual relationships with their teachers when their teachers responded sensitively to their socioemotional and academic needs. When comparing the predicted group-mean level of conflict with norms for Dutch 5-year old girls, the scores indicate slightly above-average levels of conflict for the high-sensitivity group (Koomen et al., 2007). Importantly, for behaviorally at-risk girls with teachers demonstrating low sensitivity, the degree of conflict point to clinical levels of conflict. No evidence was obtained for the moderating role of the quality of teachers' behavior management for girls. In line with the gender socialization perspective, these findings suggest that girls in particular are sensitive to teacher behaviors that convey positive messages of care, acceptance, and respect. Teachers who sensitively respond to such needs appear capable of preventing behavior problems from progressing into conflictual relationships that are characterized by mistrust, negativity, and discordance.

For boys, adequate behavior management of teachers significantly weakened the association between externalizing behavior and conflict. The risk of conflictual relationships was slightly reduced for boys with externalizing problems when teachers used proactive strategies to regulate the child's behavior. In line with the academic risk perspective, it is likely that boys primarily need teachers as an external source of

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behavior regulation. Research in kindergarten has shown that boys have less developed self-regulation skills to direct and control their behavior and attention than girls, though these skills are necessary to facilitate learning processes (Matthews, Ponitz, & Morrison, 2009). Poor behavioral control disrupts classroom routines and could easily lead to conflicts with teachers. The current results signify that proactive behavior management of teachers through clear communication of expectations, adequate feedback, and consistent consequences could offer boys an external source of regulation that reduces the chance that behavioral difficulties result in misunderstandings and conflicts.

In convergence with other studies on teacher practices, no main effects of teachers' observed practices on teacher-student relationship quality was found (Buyse, Verschueren, & Doumen, 2009; Hamre & Pianta, 2005). Moreover, the quality of teachers' practices was relatively high. The pedagogical practices of teachers seemed on average good enough for typical children to engage in positive relationships with teachers. However, behaviorally-challenging children were at-risk of conflictual relationships under conditions of poor teacher practices, indicating a 'dual risk' of academic failure (Stipek & Miles, 2008).

From a practical perspective, the finding that actual teacher behavior can reduce the chance of conflictual relationships for behaviorally-challenging children is of high importance. Behavior problems typically exacerbate relational conflict over time, which in turn undermines children's engagement in learning activities and academic progress (Doumen et al., 2008; Stipek & Miles, 2008). Insight in proximal factors that could ameliorate such negative risk patterns is therefore essential. Previous research already showed that teacher variables such as depression and self-efficacy play a moderating role as well as classroom climate and teachers' pedagogical style (Buyse

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et al., 2008; Hamre et al., 2008). The current study provides evidence that dyadic interaction processes that are proximal to the teacher-child dyadic system could counteract risks associated with early externalizing behavior. Importantly, these behaviors of teachers can be influenced. There are promising training programs to help teachers improve their responsiveness in interactions with children (Kinzie et al., 2006; Pianta, Mashburn, Downer, Hamre, & Justice, 2008; Raver et al., 2008; Spilt, 2010).

Several remarks about the study can be made. First, in line with the literature, we studied early externalizing behavior as a predictor of conflict (Doumen et al., 2008). However, the cross-sectional design of the study precludes causal inferences. Second, teachers reported on both externalizing child behavior and relationship quality. These associations may have partly reflected same-source, same-method variance. Third, teachers participated voluntary.

It's also noteworthy that the overall sample was not highly at-risk and children exhibited relatively low to moderately mild externalizing problems. Only a minority of the children had more severe behavior problems. Furthermore, results should be interpreted within the context of a small-group task activity. Unstructured situations provide a different setting to observe the behavior management of teachers. For instance, free play activities or the transition from one activity to another may provide additional information about the behavior management of teachers in relation to a target child. Lastly, the dyadic systems model emphasizes the dyadic nature of teacher and child behavior (Pianta et al., 2003). Therefore, future research could observe both teacher and child behavior during the same interaction setting in order to obtain a more detailed and in-depth examination of reciprocal behavior and information exchange processes.

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In conclusion, as behaviorally-challenging children are at risk of developing conflictual teacher-child relationships, which increases the chance of academic failure, it is of significance that teachers' actual responsiveness to children's behavioral and socioemotional needs could make a difference. In addition, the study indicates that behaviorally at-risk boys and girls may have different needs that teachers need to be aware of.

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Bio description

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Her research interests address student-teacher interactions and teachers' pedagogical practices in relation to emotional well-being, social adjustment, and task behaviors.

Tables

Table 1.

Descriptive statistics and correlations for boys and girls

	n	*M (SD)*	2	3	4	5
Boys						
1.Externalizing Behavior	105	1.55 (.56)	-.38**	.68**	-.04	-.20*
2.Closeness	96	4.11 (.68)		-.50**	.02	.16
3.Conflict	96	2.02 (.94)			-.01	-.18[a]
4.Teacher Sensitivity	104	5.02 (.82)				.48**
5.Behavior Management	104	5.15 (.86)				
Girls						
1.Externalizing Behavior	87	1.22 (.30)	-.07	.64**	.21*	-.10
2.Closeness	80	4.48 (.62)		-.08	.05	.00
3.Conflict	80	1.49 (.66)			.07	-.11
4.Teacher Sensitivity	87	5.18 (.68)				.54**
5.Behavior Management	87	5.38 (.68)				

Note. *$p < .05$, **$p < .01$, [a]$p = .06$ (two-tailed)

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Table 2.

Final regression models

	Closeness	Conflict
	B (SE)	*B (SE)*
Total sample		
Externalizing Behavior (EB)	-.23 (.05)**	.59 (.05)**
Behavior Management (BM)	.02 (.06)	-.02 (.05)
Teacher Sensitivity (TS)	.03 (.06)	-.03 (.05)
Interaction EB*BM	-	-.09 (.04)*
Interaction EB*TS	-	-
Boys		
Externalizing Behavior (EB)	-.23 (.06)**	.55 (.08)**
Behavior Management (BM)	.05 (.07)	-.01 (.08)
Teacher Sensitivity (TS)	-.01 (.07)	-.02 (.07)
Interaction EB*BM	-	-.09 (.056)[a]
Interaction EB*TS	-	-
Girls		
Externalizing Behavior (EB)	-.08 (.11)	.83 (.09)**
Behavior Management (BM)	-.02 (.10)	.04 (.07)
Teacher Sensitivity (TS)	.07 (.10)	-.33 (.11)**
Interaction EB*BM	-	-
Interaction EB*TS	-	-.52 (.15)**

Note 1. *$p < .05$, **$p < .01$, [a]$p = .10$ (two-tailed)

Note 2. Unstandardized beta's are reported; predictors were standardized

Note 3. Non-significant interaction terms were removed from the model

Figures

Figure 1

Note. Standardized predictor variables are depicted

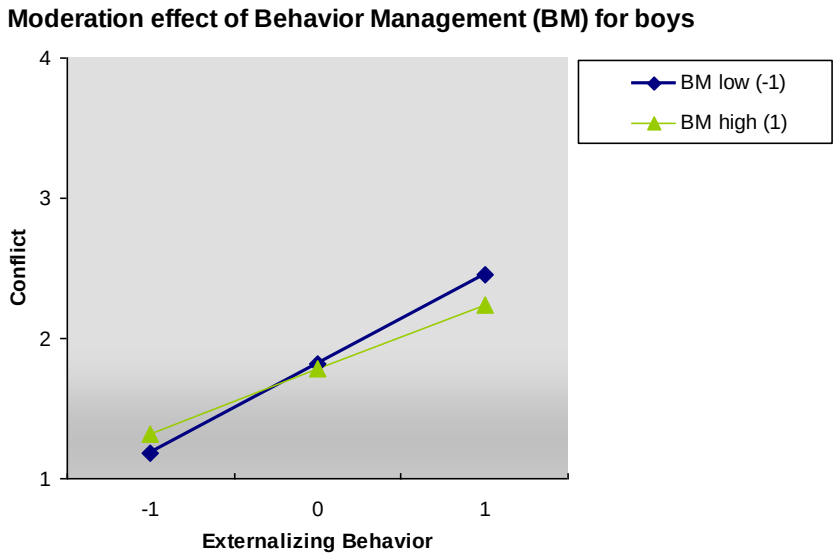

Figure 2

Note. Standardized predictor variables are depicted